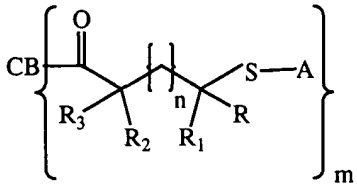
WHAT IS CLAIMED IS:

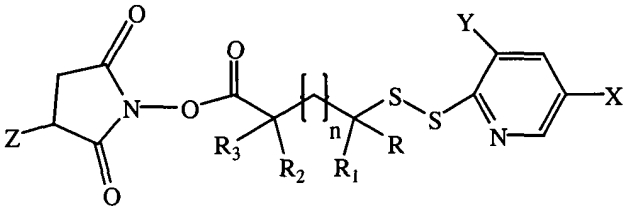
1. A method of making a conjugate comprising a cell binding agent and one or more small molecule drugs, wherein said conjugate is represented by formula (V):



(V)

wherein CB represents the cell binding agent, A represents the small molecule drug linked by a disulfide moiety, R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, and m is an integer of 1 to 10 or more, said method comprising:

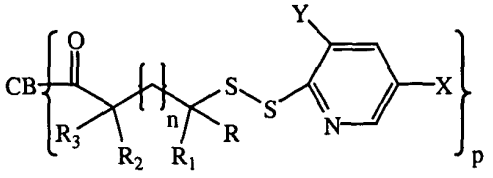
(1) reacting the cell binding agent with a cross-linker of the formula (I):



(I)

wherein X and Y are the same or different and are H, $CONR_4R_5$ or NO_2, provided that X and Y are not both H at the same time, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and Z is $SO_3^-M^+$ or H, wherein M^+ represents a metal ion or a tetra alkyl ammonium ion,

to thereby give a compound of the formula (III):

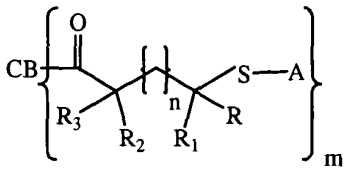


(III)

wherein p represents an integer of 1 to 10 or more, and

(2) reacting the compound of the formula (III) with one or more small molecule drugs comprising a free thiol group.

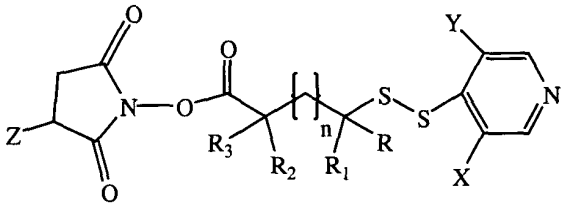
2. A method of making a conjugate comprising a cell binding agent and one or more small molecule drugs, wherein said conjugate is represented by formula (V):



(V)

wherein CB represents the cell binding agent, A represents the small molecule drug linked by a disulfide moiety, R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, and m is an integer of 1 to 10 or more, said method comprising:

(1) reacting the cell binding agent with a cross-linker of the formula (II):



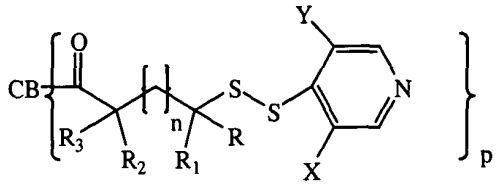
(II)

wherein X and Y are the same or different and are H, $CONR_4R_5$ or NO_2, provided that X and Y are not both H at the same time, R_4 and R_5 are the same or different and are each H, methyl,

ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and Z is $SO_3^-M^+$ or H,

wherein M^+ represents a metal ion or a tetra alkyl ammonium ion,

to thereby give a compound of the formula (IV):



(IV)

wherein p represents an integer of 1 to 10 or more, and

(2) reacting the compound of the formula (IV) with one or more small molecule drugs comprising a free thiol group.

3. The method of claim 1 or 2, wherein the cell-binding agent is an antibody or an antigen binding fragment thereof.

4. The method of claim 1or 2, wherein the cell-binding agent is a monoclonal antibody or an antigen binding fragment thereof.

5. The method of claim 1 or 2, wherein the small molecule drug is a cytotoxic agent.

6. The method of claim 1 or 2, wherein the small molecule drug is at least one member selected from the group consisting of a maytansinoid compound, a taxane compound, a CC-1065 compound, a daunorubicin compound, a doxorubicin compound, and analogues or derivatives thereof.

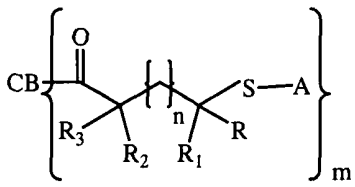
7. The method of claim 1 or 2, wherein both of R and R_1 are H or methyl, or one of R and R_1 is H and the other is methyl.

8. The method of claim 1 or 2, wherein n is 1, R_1 is methyl, and R, R_2 and R_3 are H.

9. The method of claim 1 or 2, wherein n is 1 and R, R_1, R_2, and R_3 are H.

10. The method of claim 1 or 2, wherein n is 1, R and R_1 are both methyl, and R_2 and R_3 are both H.

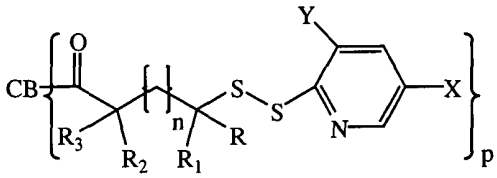
11. A method of making a conjugate comprising a cell binding agent and one or more small molecule drugs, wherein said conjugate is represented by formula (V):



(V)

wherein CB represents the cell binding agent, A represents the small molecule drug linked by a disulfide moiety, R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, and m is an integer of 1 to 10 or more, said method comprising:

reacting a compound of the formula (III)

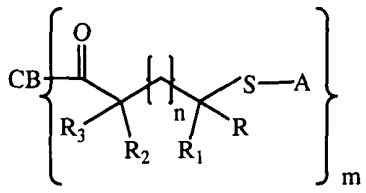


(III)

wherein X and Y are the same or different and are H, $CONR_4R_5$ or NO_2, provided that X and Y are not both H at the same time, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and p represents an integer of 1 to 10 or more,

with one or more small molecule drugs comprising a free thiol group.

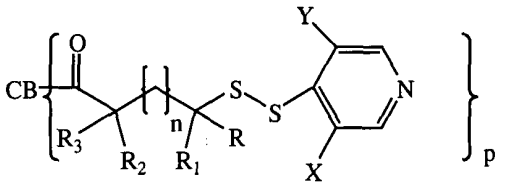
12. A method of making a conjugate comprising a cell binding agent and one or more small molecule drugs, wherein said conjugate is represented by formula (V):



(V)

wherein CB represents the cell binding agent, A represents the small molecule drug linked by a disulfide moiety, R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer of 1 – 4, and m is an integer of 1 to 10 or more, said method comprising:

reacting a compound of the formula (IV):



(IV)

wherein X and Y are the same or different and are H, $CONR_4R_5$ or NO_2, provided that X and Y are not both H at the same time, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and p represents an integer of 1 to 10 or more,

with one or more small molecule drugs comprising a free thiol group.

13. The method of claim 11 or 12, wherein the cell-binding agent is an antibody or an antigen binding fragment thereof.

14. The method of claim 11 or 12, wherein the cell-binding agent is a monoclonal antibody or an antigen binding fragment thereof.

15. The method of claim 11 or 12, wherein the small molecule drug is a cytotoxic agent.

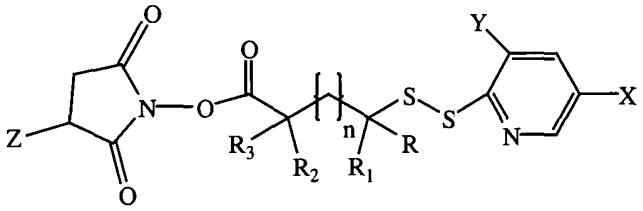
16. The method of claim 11 or 12, wherein the small molecule drug is at least one member selected from the group consisting of a maytansinoid compound, a taxane compound, a CC-1065 compound, a daunorubicin compound, a doxorubicin compound, and analogues or derivatives thereof.

17. The method of claim 11 or 12, both of R and R_1 are H or methyl, or one of R and R_1 is H and the other is methyl.

18. The method of claim 11 or 12, wherein n is 1, R_1 is methyl, and R, R_2 and R_3 are H.

19. The method of claim 11 or 12, wherein n is 1 and R, R_1, R_2, and R_3 are H.20. The method of claim 11 or 12, wherein n is 1, R and R_1 are both methyl, and R_2 and R_3 are both H.

20. A cross-linker of formula (I):

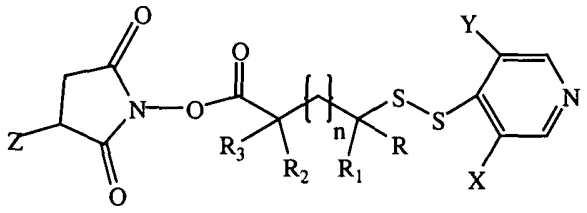


(I)

wherein R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, X and Y are the same or different and are $CONR_4R_5$ or NO_2, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and Z is $SO_3^-M^+$ or

H, wherein M^+ represents a metal ion or a tetra alkyl ammonium ion, provided that when X and/or Y is NO_2, Z is not H.

21. A cross-linker of formula (II):



(II)

wherein R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, X and Y are the same or different and are $CONR_4R_5$ or NO_2, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and Z is $SO_3^-M^+$ or H, wherein M^+ represents a metal ion or a tetra alkyl ammonium ion, provided that when X and/or Y is NO_2, Z is not H.

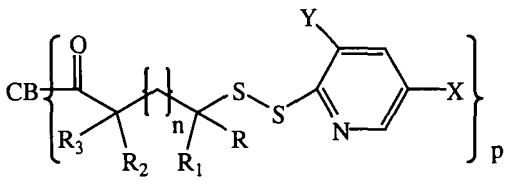
22. The cross-linker of claim 20 or 21, wherein both of R and R_1 are H or methyl, or one of R and R_1 is H and the other is methyl.

23. The cross-linker of claim 20 or 21, wherein n is 1, R_1 is methyl and R, R_2 and R_3 are H.

24. The cross-linker of claim 20 or 21, wherein n is 1 and R, R_1, R_2, and R_3 are H.

25. The cross-linker of claim 20 or 21, wherein n is 1, R and R_1 are both methyl, and R_2 and R_3 are both H.

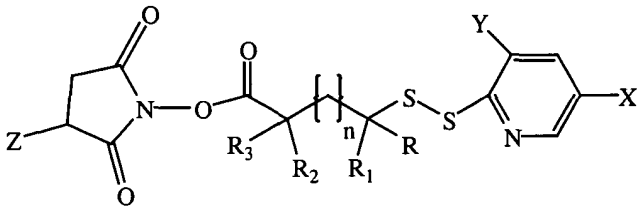
26. A method of making a compound of formula (III):



(III)

wherein CB represents a cell binding agent, R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, X and Y are the same or different and are H, $CONR_4R_5$ or NO_2, provided that X and Y are not both H at the same time, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and p represents an integer of 1 to 10 or more,

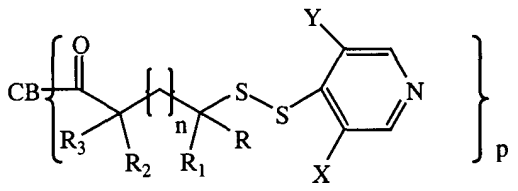
comprising reacting the cell binding agent, CB, with a cross-linker of the formula (I):



(I)

wherein Z is $SO_3^-M^+$ or H, wherein M^+ represents a metal ion or a tetra alkyl ammonium ion.

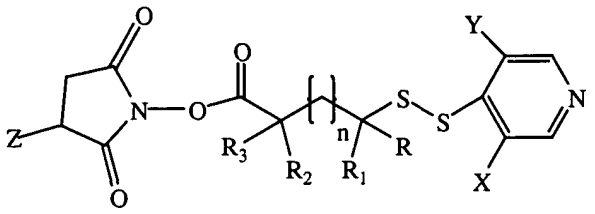
27. A method of making a compound of formula (IV):



(IV)

wherein CB represents a cell binding agent, R, R_1, R_2 and R_3 are the same or different and are H, methyl, ethyl, or linear, branched or cyclic alkyl having 3 to 6 carbon atoms, n is 0 or an integer from 1 to 4, X and Y are the same or different and are H, $CONR_4R_5$ or NO_2, provided that X and Y are not both H at the same time, R_4 and R_5 are the same or different and are each H, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl or tert-butyl, and p represents an integer

of 1 to 10 or more,, comprising reacting the cell binding agent with a cross-linker of the formula (II):



(II)

wherein Z is $SO_3^-M^+$ or H, wherein M^+ represents a metal ion or a tetra alkyl ammonium ion.

28. The method of claim 26 or 27, wherein the cell-binding agent is an antibody or an antigen binding fragment thereof.

29. The method of claim 26 or 27, wherein the cell-binding agent is a monocloanal antibody or an antigen binding fragment thereof.

30. the method of claim 26 or 27, wherein both of R and R_1 are H or methyl, or one of R and R_1 is H and the other is methyl.

31. The method of claim 26 or 27, wherein n is 1, R_1 is methyl, and R, R_2 and R_3 are H.

32. The method of claim 26 or 27, wherein n is 1 and R, R_1, R_2, and R_3 are H.

33. The method of claim 26 or 27, wherein n is 1, R and R_1 are both methyl, and R_2 and R_3 are both H.